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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of: Steven A. LaPierre	) Conf. No.: 8794
Application No.: 09/679,813	) Group Art Unit: 3624
Filed: October 5, 2000	) Examiner: Charles, Debra F.
FOR: A SYSTEM AND METHOD FOR ELECTRONIC TRADING OF ASSETS	)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDED APPEAL BRIEF

In response to the Notice of Non-Compliant Appeal Brief dated August 2, 2006, Applicant hereby submits an Amended Appeal Brief in connection with this application. The Amended Appeal Brief is identical to the Appeal Brief previously submitted, except that new Sections IX and X have been added.

CERTIFICATE OF MAILING UNDER 37 CFR § 1.8

I hereby certify that this paper and documents and/or fees referred to herein as transmitted, submitted or enclosed are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to the Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

Name: Daniel H. Golub Signature: ________ Date August 17, 2006

I. Real Party in Interest

The real party in interest is Novaplex Technologies, Inc., the assignee of all right, title and interest in the above-referenced patent application.

II. Related Appeals and Interferences

There are no prior or pending appeals, interferences or judicial proceedings known to appellant, the appellant's legal representative, or the assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

III. Status of Claims

Claims 1-7, 12-16 and 19 stand rejected under 35 USC §103(a) as being unpatentable over Harpale (US 2002/0032579A1) and Togher et al. (US 6,014,627 A).

Claims 8 and 9 stand rejected under 35 USC §103(a) as being unpatentable over Harpale (US 2002/0032579A1) and Togher et al. (US 6,014,627 A), and further in view of Grosh et al. (US 6,195,646 B1).

Claim 10 stands rejected under 35 USC §103(a) as being unpatentable over Harpale (US 2002/0032579A1) and Togher et al. (US 6,014,627 A), and further in view of Gonda et al. (US 6,662,221 B1).

Claim 11 stands rejected under 35 USC §103(a) as being unpatentable over Harpale (US 2002/0032579A1) and Togher et al. (US 6,014,627 A), and further in view of Natarajan et al. (US 6,584,502 B1).

Claims 17 and 18 stand rejected under 35 USC §103(a) as being unpatentable over Harpale (US 2002/0032579A1) and Togher et al. (US 6,014,627 A), and further in view of Brezak, Jr. et al. (US 6,401,211 B1).

All pending claims (i.e., claims 1-19) are being appealed.

IV. Status of Amendments

No amendment has been filed subsequent to the final rejection dated November 4, 2005.

V. Summary of Claimed Subject Matter

Independent claim 1 is directed to a method for online trading of assets via transactionally linked virtual markets (p. 5, line 20 – p. 6, line 5; and p. 16, lines 11-14 (examples of markets)). The claimed method includes defining attributes and behaviors of virtual markets (p. 20, lines 18-19; and Fig. 6, system 600), placing individual buy and sell orders in the virtual markets, (p. 20, lines 21-22; Figure 6, element 602) and defining at least one unified cross-market trading strategy that includes at least a first order in a first virtual market and a second order in a second virtual market (p. 20, lines 22-23; Figure 6, elements 600, 602, 608; p. 25, line 10 – p. 26, line 22; and Figs. 8-10). Based on the unified cross-market trading strategy, a price and an amount for the first order in the first virtual market is automatically calculated based on a price and an amount of one or more orders in the second virtual market (p. 26, line 2 – p. 30, line 13; and Figs. 10-13). Based on the unified cross-market trading strategy, a price and an amount for the second order in the second virtual

market is automatically calculated based on a price and an amount of one or more orders in the first virtual market (p. 30, lines 14-15, and Figs. 12-13). The first and second orders are automatically routed to their respective virtual markets, and both individual orders and orders generated by cross-market trading strategies for virtual markets are automatically matched and executed (p. 20, line 20- p. 21, line 3, Fig. 6, elements 602, 604, 606, 608). At least part of the method is performed on one or more computer systems (Fig. 6, element 600).

Independent claim 12 recites a system for online trading of assets via transactionally linked virtual markets (p. 5, line 20 – p. 6, line 5; p. 16, lines 11-14 (examples of markets), p. 20, line 15-p. 21, line 3; Figure 6, elements 602, 604, 606, 608). The system includes a market creation mechanism to enable users to create a plurality of virtual markets (p. 20, lines 18-19; Figure 6, system 600 and elements 602, 604, 606, 608); a plurality of active market servers (element 606 of Fig. 6) to support the operation of each of the created virtual markets; an order creation mechanism to allow users to create, buy, or sell orders related to the virtual markets (element 602 of Fig. 6); a strategy creation mechanism to enable users to define cross-market trading strategies and specify the virtual markets referenced by the cross-market trading strategies, wherein the cross-market trading strategies comprise at least one unified cross-market trading strategy that includes at least a first order in a first virtual market and a second order in a second virtual market (p. 20, lines 22-23; Figure 6, elements 600, 602, 608; p. 25, line 10 – p. 26, line 22; and Figs. 8-10). A plurality of active strategy servers (element 608, Fig. 6; p. 20, line 22-p. 21, line 3) generate new orders on behalf of the specified cross-market trading strategies and dynamically coordinate with the plurality of

active market servers to continuously monitor relationships between virtual markets and modify orders generated on behalf of cross-market trading strategies; wherein at least one of the servers automatically calculates, based on the unified cross-market trading strategy, a price and an amount for the first order in the first virtual market based on a price and an amount of one or more orders in the second virtual market (p. 26, line 2 – p. 30, line 13, Figs. 10-13); and at least one of the servers automatically calculates, based on the unified cross-market trading strategy, a price and an amount for the second order in the second virtual market based on a price and an amount of one or more orders in the first virtual market (p. 30, lines 14-15; and Figs. 12-13). A linking mechanism enables orders and counterorders from different servers to be linked (element 600, Fig. 6).

Independent claim 19 recites a system for online trading of assets via transactionally linked virtual markets (p. 5, line 20 – p. 6, line 5; p. 16, lines 11-14 (examples of markets), p. 20, line 15-p. 21, line 3; Figure 6, elements 602, 604, 606, 608). A plurality of client systems is provided for entering orders by a client (p. 20, lines 18-22; and Fig. 6, element 602). A plurality of order routers (Fig. 6, element 604) are provided for determining which market for an existing plurality of markets the order is in and transmitting the order to a market server (Fig. 6, element 606). A plurality of market servers is provided for matching the order with existing counterorders and monitoring the plurality of markets (Fig. 6, element 606). A plurality of strategy servers (Fig. 6, element 608) is provided for generating new orders, and routing the generated orders to each market defined in a trading strategy and coordinating with the plurality of market servers to insure atomic execution of all orders that make up the

trading strategy (p. 21, line 4 – page 23, line 23). At least one of the servers automatically calculates, based on a unified cross-market trading strategy, a price and an amount for a first order in a first virtual market based on a price and an amount of one or more orders in a second virtual market (p. 26, line 2 – p. 30, line 13, and Figs. 10-13). At least one of the servers automatically calculates, based on the unified cross-market trading strategy, a price and an amount for a second order in the second virtual market based on a price and an amount of one or more orders in the first virtual market (p. 30, lines 14-15, Figs. 12-13).

VI. Grounds of Rejection to be Reviewed on Appeal

Appellant respectfully requests review on Appeal of the Examiner's rejection of Independent Claims 1, 12 and 19 under 35 USC §103(a) as being unpatentable over Harpale (US 2002/0032579A1) and Togher et al. (US 6,014,627 A).

VII. Argument

Independent claims 1, 12 and 19 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over U.S. Patent Publication No. 2002/0032579 to Harpale in view of U.S.Patent No. 6,014,627 to Togher et al. In response to the Examiner's rejection of the claims, Applicant respectfully asserts that the pending claims are allowable over the cited references because the Examiner has failed to establish a *prima facie* case of obviousness. The MPEP states, in relevant part:

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, <u>the prior art reference (or references when combined) must teach or suggest all of the claim limitations</u>. MPEP § 2142.

The Examiner has failed to show that Harpale and Togher, alone or in combination, teach all of the elements of claims 1, 12 or 19.

Pending independent claim 1 recites: *inter alia*, "[a] method for online trading assets via transactionally linked virtual markets comprising ... defining at least one unified cross-market trading strategy that includes at least a first order in a first virtual market and a second order in a second virtual market; <u>automatically calculating, based on the unified cross-market trading strategy, a price and an amount for the first order in the first virtual market based on a price and an amount of one or more orders in the second virtual market; [and] automatically calculating, based on the unified cross-market trading strategy, a price and an amount for the second order in the second virtual market based on a price and an amount of one or more orders in the first virtual market</u>." Similar limitations appear in independent claims 12 and 19.

The Examiner has acknowledged that none of the limitations underlined above are shown in Harpale. Moreover, Applicant has carefully reviewed Togher et al., and it is respectfully submitted that Togher et al. similarly fails to teach or suggest the limitations underlined above. In asserting that Togher et al. teaches the limitations underlined above, the Examiner has cited to Col. 1, lines 20-67, col. 7, lines 5-67, and col. 10, lines 1-55 of Togher.

None of these provisions discuss cross-market trading, let alone a unified cross-market trading strategy, as required by all pending independent claims.

The Examiner's assertion that Togher et al. meets Applicant's claimed unified cross-market strategy limitations is based on the following reasoning:

> ... Togher et al. disclose(s) a price arbitrage systems (sic) that functions across markets (currency trading is <u>inherently</u> cross market) ... Official Action dated Nov. 5, 2005, at 4 (Emphasis added).

Applicant disagrees with the Examiner's assertion that "currency trading is <u>inherently</u> cross market." The standard for an inherency rejection is set forth in §2112 of the MPEP:

> The fact that a certain result or characteristic <u>may</u> occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). <u>"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities</u>. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) ... Also, "[a]n invitation to investigate is not an inherent disclosure" where a prior art reference "discloses no more than a broad genus of potential applications of its discoveries." *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367, 71 USPQ2d 1081, 1091 (Fed. Cir. 2004) ...
>
> "In relying upon the theory of inherency, <u>the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination</u> that the allegedly inherent characteristic <u>necessarily</u> flows from the teachings of the applied prior art." *Ex parte Levy,* 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original) (Applicant's invention was directed to a biaxially oriented, flexible dilation catheter balloon (a tube which expands upon inflation) used, for example, in clearing the blood vessels of heart patients). The examiner applied a U.S. patent to Schjeldahl which disclosed injection molding a tubular preform and then injecting air into the preform to

> expand it against a mold (blow molding). The reference did not directly state that the end product balloon was biaxially oriented. It did disclose that the balloon was "formed from a thin flexible inelastic, high tensile strength, biaxially oriented synthetic plastic material." *Id.* at 1462 (emphasis in original). The examiner argued that Schjeldahl's balloon was inherently biaxially oriented. The Board reversed on the basis that the examiner did not provide objective evidence or cogent technical reasoning to support the conclusion of inherency.).

It is respectfully submitted that the Examiner has failed to provide a basis in fact and/or technical reasoning to reasonably support the assertion that "currency trading is inherently cross market." Moreover, and as explained by Applicant in the Specification, it is clearly possible to implement currency trading in a single market. In this regard, Applicant respectfully directs the Board's attention to the description of "Market" set forth in the Patent Specification:

> ... Examples of Markets are a spot foreign exchange market for exchanging currencies, a market to trade options, interest rates, futures, commodities. ... Specification at p. 16, lines 11-14 (Emphasis added).

Simply put, for purposes of the present invention, foreign exchange trading like that described in Togher (where one currency is exchanged for a different currency) corresponds to trading in a single market, rather than "cross-market" trading as suggested by the Examiner. Simply put, the Examiner's reasoning that "currency trading is inherently cross market" must fail because there are clearly ways to implement currency trading in a single market, as explained by Applicant in the Specification.

One example of a cross-market trading strategy in accordance with the present invention is described at page 21, lines 9-13, of the Specification, and involves multiple simultaneously active markets, i.e., a spot foreign exchange market for trading Euros (EUR)

in exchange for U.S. Dollars (USD), a spot foreign exchange market for trading USD in exchange for Japanese Yen (JPY), and a spot foreign exchange market for trading EUR in exchange for JPY. By contrast, Togher et al. is limited to trading within a single currency market, e.g., see discussion of market for exchanging USD and German marks (DEM) set forth at col. 7, lines 41-45 of Togher et al.

As discussed more fully in the Specification, the present invention allows for creation and execution of trading strategies that span multiple markets, such as the EUR/USD, USD/JPY and EUR/JPY markets mentioned above. For example, pages 25-26 of the Specification describe part of one such cross-market trading strategy as follows:

> "The strategy (called "FX Arbitrage Strategy") is defined as an arbitrage strategy that has a required Return On Investment (ROI) of "1/10%", a Profit Location (the asset/date "bucket" where the resulting ROI ends up) of "USD Spot", and is comprised of three Strategy Items: Item #1 is a sell item linked to Market A (EUR/USD Spot FX), Item #2 is a sell item linked to Market B (USD/JPY Spot FX), and Item #3 is a buy item linked to Market C (EUR/JPY Spot FX).
>
> When activated, a strategy must first identify the best existing counterorder for each of its Items. For Item #1, the best counterorder would be order #1, a buy order in Market A having a price of 1.0235 and a size of 1,000,000. For Item #2, the best counterorder would be order #3, a buy order in Market B having a price of 103.15 and a size of 3,000,000. For Item #3, the best counterorder would be order #6, a sell order in Market C having a price of 105.50 and a size of 2,000,000....
>
> Once the strategy has identified the counterorder for each of its Items, it can then calculate the price and amount for the order it will place on behalf of each Item. Item #1 is defined as having a price formula of (C.BestPrice / B.BestPrice) x 1.001. This means that to calculate the price for the order which will be placed on behalf of Item #1, the strategy must take the best sell price (the price of the best counterorder) from Market C, divide it by the best buy price from Market B, and then multiply the result by 1.001 to build in the required Return On Investment of 1/10%. (If the Item were a buy Item, the price would be *divided* by 1.001 to build in the required ROI). The calculated price would therefore be equal to 1.02380514 ....

> Since this Item is a sell Item and the strategy will therefore be placing a sell order on its behalf, the order price must be rounded up to the number of decimal places which are conventionally used when placing orders in the EUR/USD Spot FX Market (four places to the right of the decimal), making the final order price 1.0239. Conversely, for buy Items, the price would be rounded down. This process will be repeated by the strategy for each of its other two Items, resulting in the calculated prices illustrated in Figure 10. Thus, Item #2 is defined as having a price formula of (C.BestPrice/A.BestPrice) x 1.001, which is equal to 103.180752. Item #3, which is a buy item, and thus is defined as having a price formula of (A.BestPrice x B.BestPrice)/1.001, or (1.0235 x 103.15)/1.001= 105.468556. ...

It is clear that neither Harpale nor Togher et al., alone or in combination, teach cross-market trading functionality as presently claimed. Applicant therefore respectfully requests reversal of the Examiner rejection of claims 1, 12 and 19 over Harpale nor Togher et al.

VIII. Claims Appendix

1. (Previously Presented) A method for online trading assets via transactionally linked virtual markets comprising the steps of:

defining attributes and behaviors of virtual markets;

placing individual buy and sell orders in the virtual markets;

defining at least one unified cross-market trading strategy that includes at least a first order in a first virtual market and a second order in a second virtual market;

automatically calculating, based on the unified cross-market trading strategy, a price and an amount for the first order in the first virtual market based on a price and an amount of one or more orders in the second virtual market;

automatically calculating, based on the unified cross-market trading strategy, a price and an amount for the second order in the second virtual market based on a price and an amount of one or more orders in the first virtual market;

automatically routing the first and second orders to their respective virtual markets; and

automatically matching and executing both individual orders and orders generated by cross-market trading strategies for virtual markets;

wherein at least part of the method is performed on one or more computer systems.

2. (Previously Presented) The method of claim 1, wherein the attributes and behaviors of the virtual markets include asset types, payment dates, and payment factors.

3. (Previously Presented) The method of claim 1, wherein the attributes and behaviors of the virtual markets replicate those of conventional markets.

4. (Previously Presented) The method of claim 1, wherein the step of placing an individual buy and sell order includes specifying a total size of the order, a minimum allowable size of a partial execution of the order, a portion of the total size of the order that will be visible to others, and an indication of which of the virtual markets the order is for, and the price of the order.

5. (Previously Presented) The method of claim 1, wherein the step of defining at least one unified cross-market trading strategy further comprises the step of specifying a type of trading strategy.

6. (Previously Presented) The method of claim 5, wherein the type of cross-market trading strategy is selected from the group consisting of: arbitrage, basket, and hedge.

7. (Previously Presented) The method of claim 1, wherein the step of defining at least one unified cross-market trading strategy further comprises the step of specifying the virtual markets referenced by the cross-market trading strategy.

8. (Previously Presented) The method of claim 1, wherein the step of defining at least one unified cross-market trading strategy further comprises the step of defining formulae to

calculate prices and amounts for each virtual market referenced by the cross-market trading strategy based upon counterorders from other virtual markets.

9. (Previously Presented) The method of claim 8, wherein the step of defining formulae to calculate further comprises the step of identifying a best counterorder for each initial buy or sell order.

10. (Previously Presented) The method of claim 1, wherein the step of defining at least one unified cross-market trading strategy further comprises the step of automatically generating new orders on behalf of the defined cross-market trading strategy.

11. (Previously Presented) The method of claim 1, wherein the step of matching and executing both individual orders and orders generated by cross-market trading strategies comprises the step of automatically and continuously modifying orders as needed on behalf of defined cross-market trading strategies in response to changes in the virtual markets referenced by the cross-market trading strategies.

12. (Previously Presented) A system for online trading of assets via transactionally linked virtual markets comprising

a market creation mechanism to enable users to create a plurality of virtual markets;

a plurality of active market servers to support the operation of each of the created virtual markets;

an order creation mechanism to allow users to create, buy, or sell orders related to the virtual markets;

a strategy creation mechanism to enable users to define cross-market trading strategies and specify the virtual markets referenced by the cross-market trading strategies, wherein the cross-market trading strategies comprise at least one unified cross-market trading strategy that includes at least a first order in a first virtual market and a second order in a second virtual market;

a plurality of active strategy servers to generate new orders on behalf of the specified cross-market trading strategies and to dynamically coordinate with the plurality of active market servers to continuously monitor relationships between virtual markets and modify orders generated on behalf of cross-market trading strategies; wherein at least one of the servers automatically calculates, based on the unified cross-market trading strategy, a price and an amount for the first order in the first virtual market based on a price and an amount of one or more orders in the second virtual market; and at least one of the servers automatically calculates, based on the unified cross-market trading strategy, a price and an amount for the second order in the second virtual market based on a price and an amount of one or more orders in the first virtual market; and

a linking mechanism to enable orders and counterorders from different servers to be linked.

13. (Previously Presented) The system of claim 12, comprising:

an adapter that enables external systems to link into the system so that users in the system may select from and share orders with external liquidity sources;

an order validation mechanism; and

a credit limit validation mechanism.

14. (Previously Presented) The system of claim 13, wherein the order validation mechanism allows a host site to establish trading limits for the host site's accounts.

15. (Previously Presented) The system of claim 14, wherein the order validation mechanism validates each created new order against the trading limits, and once validated, sends the new order to at least one of the plurality of virtual markets.

16. (Previously Presented) The system of claim 13, wherein the credit limit validation mechanism allows host sites to establish mutual lines of credit for specified markets and use these lines of credit to act as guarantors when matching orders that originate from different host sites.

17. (Previously Presented) The system of claim 13, further comprising a plurality of access control servers to authenticate each user.

18. (Previously Presented) The system of claim 17, wherein the plurality of access control servers determine an authorized level of system access granted to each user before allowing each user to access the system.

19. (Previously Presented) A system for online trading of assets via transactionally linked virtual markets comprising:

a plurality of client systems for entering orders by a client;

a plurality of order routers for determining which market for an existing plurality of markets the order is in and transmitting the order to a market server;

a plurality of market servers for matching the order with existing counterorders and monitoring the plurality of markets; and

a plurality of strategy servers for generating new orders, and routing the generated orders to each market defined in a trading strategy and coordinating with the plurality of market servers to insure atomic execution of all orders that make up the trading strategy; wherein at least one of the servers automatically calculates, based on a unified cross-market trading strategy, a price and an amount for a first order in a first virtual market based on a price and an amount of one or more orders in a second virtual market; and at least one of the servers automatically calculates, based on the unified cross-market trading strategy, a price and an amount for a second order in the second virtual market based on a price and an amount of one or more orders in the first virtual market.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix

None.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Director is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully Submitted,
Morgan Lewis & Bockius LLP

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